

Bird Remains from Pre-Columbian Middens in the Virgin Islands

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DURING excavation of kitchen middens in the American Virgin Islands Ripley P. Bullen of the Florida State Museum collected a number of bird bones which he has asked me to study. In April 1960 he worked at the Magens Bay midden on the north shore of St. Thomas. On the island of St. John he studied sites at Turtle Point on Turtle Bay, at Francis Bay, and at Coral Bay. All the middens are of pre-Columbian age with approximate dates of A.D. 500-1000, but Mr. Bullen believes that the Magens Bay site is the youngest and the Coral Bay site the oldest. From Coral Bay only a single indeterminate shaft of a humerus was obtained. Identified remains from the other localities are listed below.

The only previous records of bird remains from the Virgin Islands are from Magens Bay and from middens on the island of St. Croix (Wetmore, 1918, 1937).

1. *Puffinus lherminieri* Lesson. Audubon's Shearwater. Magens Bay, 5 bones, 2 individuals. Turtle Point, 8 bones, 6 individuals. Wetmore also recorded this widespread seabird from Magens Bay and from St. Croix.

2. *Sula leucogaster* (Boddaert). Brown Booby. Magens Bay, 2 bones, 1 individual. Recorded from Magens Bay and St. Croix.

3. *Fregata magnificens* Mathews. Magnificent Frigate-bird. Magens Bay, 4 bones, 1 individual. Also recorded by Wetmore.

4. *Nyctanassa violacea* (Linnaeus). Yellow-crowned Night Heron. Magens Bay, 1 ulna. Francis Bay, 1 ulna. Recorded from Magens Bay.

5. *Butorides virescens maculatus* (Boddaert). West Indian Green Heron. Magens Bay, right femur, length 41 mm. Seven Floridian specimens of the mainland subspecies, *B. v. virescens* (Linnaeus), have femur lengths of 47.0-48.7 mm. Oberholser (1912) showed that resident green herons from the West Indies are smaller than the northern migratory form. This is the first fossil record of the species from the West Indies.

6. *Anas americana* Gmelin. Baldpate. Magens Bay, humerus. Reported from the St. Croix midden. This duck is a winter visitant to the West Indies.

7. *Nesotrochis debooyi* Wetmore. Magens Bay, 1 bone. Francis

Bay, 3 bones, 2 individuals. Magens Bay is the type locality of this extinct genus of large rail. It has also been recorded from St. Croix and Puerto Rico (Wetmore, 1922) but not previously from St. John. Although sexual dimorphism in size is marked in the Rallidae, it appears that this flightless bird may also show geographic variation, as published measurements of Puerto Rican fossils exceed those from the Virgin Islands.

8. *Sterna fuscata* Linnaeus. Sooty Tern. Magens Bay, 2 right humeri. Turtle Point, right and left humeri. This seabird occurs in tropical waters throughout the world, but the only previous fossil records are from the Bahamas and St. Helena (Brodkorb, 1967). In *Sterna* the distal end of the humerus is more compressed and the brachial depression deeper than in *Anous*. In *S. fuscata* the external edge of the ectepicondylar process is nearly straight or a little concave, so that its tip is only slightly set off from the rest of the process; in *S. anaethetus* and *Anous* the external edge of the process is constricted in the middle, so that the free half forms a distinct spur. In *S. anaethetus* the shaft of the humerus is more slender than in the other two species.

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